request. In order to lessen danger from hæmorrhage, he adopted the method suggested by Senn of isolating the trachea and passing a rubber tourniquet around the balance of the neck. While there was no arterial hæmorrhage, there was excessive venous bleeding. The jaw was resected and the malignant material removed. During the operation respiration ceased, and efforts at restoration were required for forty-five minutes before the operation could be completed. The patient left the table in apparently good condition, but died the next morning from shock, there having been no bleeding.

AMERICAN MEDICAL ASSOCIATION.

PROCEEDINGS OF SECTION ON DISEASES OF CHILDREN.

Milwaukee, June 6-8, 1893.

DR. C. G. JENNINGS delivered the inaugural address.

The largest portion of the address was devoted to a review of the recent investigations into the etiology of diphtheria and the relation which it bears to the various pseudo-membranous throat affections. He emphasized the difficulty of accurately diagnosing diphtheria from its imitators by clinical means alone, and urged the necessity of bacteriological examinations. In cases of doubt and when these examinations cannot be made the doctrine of isolation should be pushed to its furthermost limits.

Dr. W. A. DIXON (Ripley, Ohio) read a paper entitled *Observations on Isolated Cases of Diphtheria.*

Diphtheria is a frequent and most destructive disease. Sanitary conditions seem to have little to do with its prevalence. It has always displayed a marked tendency to prevail in sparsely populated districts rather than in centres of population. In this country it occurs as often on the hill-top as in the crowded city tenement houses. Observations go to show that country districts suffer more than populous cities. Pathological societies are replete with statistics showing its relation and communicability from the lower animals to man. In this country Dr. A. Jacobi says probably the possibility of contracting diphtheria directly from animals is very much greater than the danger from water or milk.

Dr. J. Lewis Smith says observations are accumulating which show that diphtheria, or a disease closely resembling it, occurs among animals. Since such distinguished observers admit that diphtheria may be contracted from the lower animals, I am encouraged to hold from my own observations that isolated cases in the country or city may be accounted for in this way.

I will cite a few cases of isolated diphtheria to show that it is reasonable to conclude that children have been infected from birds, fowls, pigeons, and cats. In 1865 diphtheria prevailed as an epidemic in Southern Ohio, was malignant in character and very fatal in its ravages. Preceding and at this period there was great fatality among the hogs and chickens in that region. In the family of Mr. G. the children were seized with violent symptoms of diphtheria. The chickens were dying with a disease

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affecting the throat. Some of them were brought into the house, where most of them died. The children spent most of their time with the sick chickens.

Another case was a child whose home was perfectly isolated. There was no possible chance of other infection. The child had a pet cat which it nursed continually, which had been ill some days prior to the child's attack and had a discharge from the nostrils. Many more similar cases which have occurred in my practice might be cited. In quite every year from that time forward I have noted instances of diphtheria in isolated homes, where malignant sickness occurred among the animals. Recently my convictions have been so strong in favour of this animal infection theory that I inquire and examine into the condition of the animals belonging to the place.

There is no reasonable way to account for the infection in all these cases except we accept the animal infection theory. It would require extraordinary strong proof to dissuade me from the convictions expressed in this paper.

Dr. G. BENSON DUNMIRE (Philadelphia) then read a paper on *Some Observations in Treating Cases of Diphtheria*, in which he insisted upon enforced isolation, skilled attendance, proper food, and prompt local and constitutional treatment.

Dr. F. E. WAXHAM (Chicago) then presented a paper on *The Therapeutics of Diphtheria* with the following statistics of intubation.

	Cases.	Recoveries.	Percentage.
Under 1 year.....	13	4	30·76
1 yr.	62	13	20·96
2	81	25	30·86
3	85	32	37·64
4	90	35	38·88
5	43	19	44·18
6	26	7	26·92
7	29	10	33·33
8	13	8	61·53
9	7	3	42·85
10	7	3	42·85
11	1	1	100·00
12	3	0	00·00
13	1	0	00·00
14	1	0	00·00
20	1	0	00·00
36	1	0	00·00
43	1	1	100·00
60	1	0	00·00
	466	161	34·54

It is to be hoped that the inoculation treatment of diphtheria will soon replace all other methods. There are still great difficulties to overcome before this method can be applied to man. I shall not occupy your time

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in the discussion of preventive treatment. We may confine ourselves in the treatment of diphtheria to the following four heads: (1) Nourishment, (2) Stimulation, (3) Internal medication, (4) Local antisepsis. The importance of feeding is often overlooked, especially in regard to the amount that is taken. On account of loss of appetite, the patient may refuse all kinds of food. In this case, we may resort to peptonized food by enemata or by the introduction of a catheter into the throat. A semi-elastic catheter may be left for some time in this position. Milk and stimulants may be introduced through the catheter, and many lives may be thus saved. Mild cases do not demand the use of alcoholic stimulants, but severe cases do demand it. Alcohol is a great destroyer of microbes. When required it should be given freely, at least one or two teaspoonfuls every hour or half-hour according to the urgency of the case. Strychnine, musk, or ammonia, if necessary, should be given. The tincture of the chloride of iron is a valuable agent; by its use the red blood-corpuscles are greatly increased in number. It should be given in frequent and full doses—ten, fifteen, or twenty drops to young children—and should be repeated every hour or half-hour. The bichloride of mercury, potash, etc., may be given, but in severe cases of diphtheria they are too irritating to the kidneys. The local antiseptic treatment is of great importance, carbolic acid, bichloride of mercury, pyro-tannin, chlorine water, or peroxide of hydrogen may be used. The results, however, will not depend so much upon the remedy employed as upon the method of employment. The bichloride of mercury is one of the most powerful germicides. In the strength of 1-4000 it is not irritating. Peroxide of hydrogen 1-4 is not irritating. If efficient the spray is to be preferred to the douche. One of the most efficient means of flushing the nasal cavities is by the use of the soft catheter. The indications in the treatment of diphtheria are to destroy the bacilli and to support the system by abundant nourishment, free stimulation, and full and frequent doses of iron.

Discussion was opened by Dr. J. A. LARRABEE (Louisville, Ky.).

It is always well to give the patient the benefit of the doubt, and treat the case from the first as though it were a true case of diphtheria until all doubt is removed. He did not agree with one of the speakers that filth plays no important *rôle* in the production of diphtheria. He thought we have some points by which we can diagnose a case rather early in its course. The constitutional disturbances of tonsilitis are sometimes very grave, but they are not followed by the blood changes as in diphtheria. He thought albuminuria is present in almost all cases of diphtheria in the second stage. Glandular enlargements are present in diphtheria. We cannot rely upon the appearance of the pseudo-membrane. He thoroughly agreed that many cases have been caused by animal infection. In regard to the preventive treatment he preferred the tincture of the chloride of iron, which should be given during the whole course of the disease. It is usually not given in large enough amount. He deemed it the best protection against the disease. It increases the number of red blood-corpuscles, and thus renders it possible for a larger amount of

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oxygen to be taken into the body. He is of the opinion that if ten to twenty drop doses of the tincture of chloride of iron are frequently given to children, the appetite will remain good. He did not think that we have a better diuretic than the chloride of iron. In regard to the local treatment, it must precede or at least accompany the constitutional treatment. Corrosive sublimate is, he believed, objectionable. If it is used as a gargle or spray, we are very apt to have some cases of death from it. He has used the peroxide of hydrogen, and if carefully used it does very well. Too strong solutions are apt to produce a slough. It is almost impossible to spray or irrigate a child's throat, and for this reason he would recommend the insufflation of boracic acid and papoid; nitrate of silver is also entitled to consideration. One case of diphtheria does not secure immunity for the patient, and hence he thought the inoculation method doubtful, although he was very hopeful.

Dr. G. S. GREENE (Buffalo, N.Y.) believed in giving the tincture of chloride of iron in large doses along with quinine and whisky. Of course, nourishment should not be overlooked. As a local treatment, the persulphate of iron in a saturated solution can be used. In regard to the prophylaxis, he believed in the use of whisky and chloride of iron: he also thought peroxide of hydrogen a good agent.

Dr. FOSTER (Chicago, Ill.) was sorry to see the chloride of mercury trampled down and the tincture of the chloride of iron used both internally and externally. There have been many good results from the use of hydrochloric acid and the chlorate of potassium. He believed much of the good derived from the use of bichloride of mercury is due to the chlorine present.

Dr. G. A. LEAN (Pennsylvania) did not believe that the bichloride of mercury is usually given in the best way, and that it is frequently not given in sufficiently large doses. The chloride of iron, hydrochloric acid and the chlorate of potassium, which were in vogue so many years ago, are still the principal agents in the treatment of this disease.

Dr. DOUGLASS (Detroit, Mich.) thought we should not be too enthusiastic in the use of iron unless we are sure there is a sufficient amount of fluid in the stomach to render it sufficiently dilute to prevent its escharotic action, thus preventing vomiting. He thought if the tonsils are much inflamed and swollen and encroach upon the air passages, it is well to cut into them. He had never had this operation followed by septic poisoning. He had found some of the tonsils soft and others hard, and in some it was surprising how far the inflammatory action extended down into the tissues.

Dr. COOK (Chicago) had treated many cases with pyro-tannin with good results. It has not been his experience to find albuminuria in all true cases of diphtheria. Does the use of bichloride of mercury increase the albumen in the urine?

Dr. INGALLS (Chicago, Ill.) thought our present treatment is about the same as our forefathers used. He is of the opinion that the tincture of the chloride of iron is a very good agent in the treatment of diphtheria. He thought it well to combine it with glycerine and the syrup of tolu. Before giving this combination a draught of water should be taken, and

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then the medicine held in the throat some little time before swallowing ; in this way we get some local effects from it. If the heart begins to fail nux vomica is the best agent. If laryngitis presents itself he thought the mild chloride of mercury should be given until the bowels are moved. Nourishment should never be neglected, milk being the best. A child eight years old should have at least eight quarts a day.

Dr. G. B. DUNMIRE (Philadelphia, Pa.) was a strong advocate of the use of bichloride of mercury.

Dr. W. A. DIXON (Ripley, Ohio) believed whisky valuable because it stimulates and carries the patient over a period of depression. Mercury is also valuable. We should use our judgment in the treatment of diphtheria, and not think we are tied to any one remedy. The tincture of chloride of iron has been very satisfactory to him. So also has whisky and bichloride of mercury. Give plenty of nourishment.

Dr. F. E. WAXHAM (Chicago, Ill.) wished to say, in regard to the use of aseptic instruments, that cases of diphtheria vary greatly in virulence and for that reason, along with many others, aseptic instruments should be used.

REVIEW.

Rosenthal, Carl (Berlin).—*Die Erkrankungen der Nase deren Nebenhohlen, des Nasenrachenraums und des Kehlkopfs.* Zweiter Band : Die Erkrankungen des Kehlkopfs. ("Diseases of the Nose, the Accessory Cavities, the Naso-Pharynx, and the Larynx.") Second Volume : Diseases of the Larynx. With 68 Illustrations in the Text. Berlin : Hirschwald. 1893. Pp. 372.

IN the review upon the first volume of this work, we have already remarked that it is written in a very practical manner, and that it fulfils the promise of the author in the preface to publish a book which appropriately introduces rhino-laryngological science to the student and the medical practitioner. The author begins with an extensive review of laryngological literature comprising thirty-six pages, then treats of the anatomy and physiology of the larynx with reference to numerous publications on this subject. In the next chapter he describes the methods of examination, the difficulties caused by hyperæsthesia or anatomical anomalies, the illuminating apparatus, phantoms for exercise, and the normal laryngeal appearances. In the chapter on inflammatory affections of the larynx, laryngitis sicca acuta is reported as being a very common disease in Northern Germany, which is not mentioned in most laryngological treatises. Chronic laryngeal catarrh can never pass into laryngeal phthisis, in spite of the opposite view held by many authors. The important subject of submucous laryngitis, often ending in abscess, is also treated of minutely. The description of laryngitis hypoglottica (chorditis inferior hypertrophica) is followed by an enumeration of the methods of dilatation ; and croup, which is regarded by the author as identical with diphtheria, is followed by a description of the operation of tracheotomy. The

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